Claims

1. A formulation comprising olanzapine or a pamoate salt or solvate thereof as an active ingredient and one or more carriers selected from the group consisting of an oleaginous carrier or cholesterol microsphere carrier.

2. A formulation as claimed in **Claim 1** wherein said formulation has a prolonged sustained release of greater than 7 days and a burst release of less than 15% of the active ingredient.

3. A formulation as claimed in **Claim 1** wherein said carrier is oleagenous.

4. A formulation of **Claim 1** wherein said carrier is selected from the group consisting of PLURONICS, cellulosic, gums, polysaccharide gums, vegetable oils, refined fractionated oils, sucrose diacetate hexaisobutyrate, chitosan, lecithin, and POVIDONE.

5. A formulation as claimed in **Claim 4** wherein said carrier is selected from the group consisting of PLURONICS, cellulosic gums, polysaccharide gums, vegetable oils, and refined fractionated oils.

6. A formulation as claimed by **Claim 2** wherein the formulation further comprises one or more pharmaceutically acceptable excipients.

7. A formulation as claimed by **Claim 6** wherein the pharmaceutically acceptable excipient is selected from the group consisting of a gelling agent and an antihydration agent.

8. A formulation as claimed in **Claim 7** comprising olanzapine pamoate monohydrate, MIGLYOL812 and white wax.

9. A formulation as claimed in **Claim 1** wherein olanzapine is the substantially pure Form II polymorph having a typical x-ray powder diffraction pattern as represented by the following interplanar spacings:

d (A)
10.2689
8.577
7.4721
7.125
6.1459
6.071
5.4849
5.2181
5.1251
4.9874
4.7665

4.7158
4.4787
4.3307
4.2294
4.141
3.9873
3.7206
3.5645
3.5366
3.3828
3.2516
3.134
3.0848
3.0638
3.0111
2.8739
2.8102
2.7217
2.6432
2.6007

10. A formulation as claimed in **Claim 1** wherein the carrier is a cholesterol microparticle.

11. A formulation as claimed in **Claim 10** wherein the microparticle is a microsphere.

12. A formulation as claimed in **Claim 10** wherein the cholesterol is selected from the group consisting of cholesterol, cholesterol palmitate, cholesterol oleate, cholesterol stearate, and cholesterol hemisuccinate.

13. A formulation as claimed in **Claim 10** wherein the microspheres have a particle size of from 20 to 500μm.

14. A formulation as claimed in **Claim 13** wherein the particle size is from 30 to 200μm.

15. A formulation as claimed in **Claim 14** wherein the particle size is from 40 to 100μm.

16. A formulation as claimed in **Claim 10** wherein the microspheres are administered in an oleaginous carrier.

17. A formulation as claimed in **Claim 16** wherein the oleaginous carrier is selected from the group consisting of PLURONICS, cellulosic gums, polysaccharide gums, vegetable oils, and refined fractionated oils.

18. A formulation as claimed in **Claim 1** for use as a depot dosage form.

19. A formulation as claimed in **Claim 1** for use as a fast acting intramuscular dosage form.

20. A formulation as claimed in **Claim 1** wherein the active ingredient is selected from the group consisting

of olanzapine, olanzapine dihydrate D, olanzapine pamoate, olanzapine pamoate dimethanolate, olanzapine pamoate monohydrate, olanzapine pamoate THF solvate, bis(olanzapine) pamoate acetone solvate, and bis(olanzapine) pamoate monohydrate.

21. A formulation as claimed in **Claim 20** wherein the active ingredient is milled.

22. A formulation as claimed in **Claim 21** wherein the particle size is from 20 to 60μm.

23. A formulation as claimed in **Claim 22** wherein the particle size is from 5 to 20μm.

24. A formulation as claimed in **Claim 23** wherein the milled particles are less than or equal to 5 μm.

25. A formulation as claimed in **Claim 20** wherein the active ingredient is olanzapine pamoate monohydrate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
10.76	98
9.20	62
8.38	85
8.18	24
7.62	20

6.67	18
6.56	18
6.51	20
6.44	20
6.11	26
5.88	22
5.64	15
5.38	100
4.90	11
4.72	12
4.64	17
4.48	18
4.35	23
4.29	31
4.24	32
4.09	71
4.02	84
3.98	73
3.81	23
3.62	14
3.52	30
3.39	11
3.25	12
2.90	15
2.85	13

26. A formulation as claimed in **Claim 20** wherein the active ingredient is bis(olanzapine) monohydrate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
15.77	26
10.44	23
9.64	24
9.31	13
8.27	23
8.17	14
8.13	14
7.84	27
7.81	30
7.41	60
7.12	40

7.00	13
6.96	13
6.55	45
6.18	53
5.87	38
5.80	19
5.59	89
5.25	26
5.00	34
4.96	31
4.88	61
4.85	73
4.71	34
4.52	19
4.33	11
4.19	100
4.12	48
4.05	39
3.97	30
3.89	31
3.80	29
3.72	20
3.70	21
3.58	33
3.45	27
3.04	13
2.84	16

27. A compound which is an olanzapine pamoate salt or solvate thereof.

28. A compound as claimed in **Claim 27** wherein the pamoate salt is olanzapine pamoate dimethanolate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
11.17	73
9.37	17
8.73	40
8.29	23
7.77	14

7.22	24
6.84	31
6.66	54
6.42	11
6.40	11
6.17	26
5.87	12
5.56	100
4.84	11
4.66	17
4.57	26
4.48	22
4.35	19
4.28	19
4.12	94
4.03	91
3.89	52
3.62	44
3.54	11
3.29	16
3.13	16

29. A compound as claimed in **Claim 27** wherein the pamoate salt is olanzapine pamoate monohydrate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
10.76	98
9.20	62
8.38	85
8.18	24
7.62	20
6.67	18
6.56	18
6.51	20
6.44	20
6.11	26
5.88	22
5.64	15
5.38	100
4.90	11
4.72	12
4.64	17
4.48	18

4.35	23
4.29	31
4.24	32
4.09	71
4.02	84
3.98	73
3.81	23
3.62	14
3.52	30
3.39	11
3.25	12
2.90	15
2.85	13

30. A compound as claimed in **Claim 27** wherein the pamoate salt is bis(olanzapine) pamoate acetone solvate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
16.87	32
9.58	35
8.88	80
8.40	16
8.19	35
7.85	16
7.34	29
7.22	25
7.04	30
6.87	18
6.77	11
6.73	11
6.65	21
6.36	12
6.26	26
5.76	31
5.58	79
5.53	100
5.45	61
5.32	42
5.19	39
5.02	55
4.91	69
4.87	51
4.85	57
4.69	44
4.61	68

4.44	23
4.34	14
4.18	17
4.07	36
3.99	28
3.93	65
3.81	23
3.78	24
3.77	20
3.65	23
3.59	28
3.45	13
3.32	19
3.25	26

31. A compound as claimed in **Claim 27** wherein the pamoate salt is bis(olanzapine) pamoate monohydrate solvate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
15.77	26
10.44	23
9.64	24
9.31	13
8.27	23
8.17	14
8.13	14
7.84	27
7.81	30
7.41	60
7.12	40
7.00	13
6.96	13
6.55	45
6.18	53
5.87	38
5.80	19
5.59	89
5.25	26
5.00	34
4.96	31
4.88	61
4.85	73
4.71	34
4.52	19
4.33	11

4.19	100
4.12	48
4.05	39
3.97	30
3.89	31
3.80	29
3.72	20
3.70	21
3.58	33
3.45	27
3.04	13
2.84	16

32. A compound as claimed in **Claim 27** wherein the pamoate salt is olanzapine pamoate THF solvate having a typical x-ray powder diffraction pattern as represented by the following interplanar spacing:

d-spacing	Intensity
14.59	100
7.78	16
7.24	56
7.00	19
6.37	12
6.04	11
6.01	11
4.85	19
4.69	42
4.39	25
4.28	19
3.95	13
3.84	20

33. A method of treating an animal, including a human suffering from or susceptible to psychosis, acute mania or mild anxiety states which comprises administering a pharmaceutically effective amount of a compound of **Claim 27, 28, 29, 30, 31 or 32.**